

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Rothenberger

Serial No. : Please assign

Filed : herewith

For : SPRING SHAFT FOR PIPE CLEANING APPARATUS

June 22, 2001

Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Prior to prosecution, please amend the above-identified patent application as follows:

IN THE CLAIMS

Please cancel claims 1-10 without prejudice and substitute the following claims:

11. Apparatus for the cleaning of interior pipe walls by means of a coil spring forming a spring shaft with windings of spring steel and with a rotation axis and a coiled winding axis the windings having at least one on their exterior a cross section different from the circular shape, characterized in that at least the exterior of the windings is profiled such that the spring shaft itself acts with at least one edge scrapingly on contamination of the pipe walls.

12. Apparatus according to claim 11, wherein the exterior is provided with at least one longitudinal groove following the windings.

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13. Apparatus according to claim 11, wherein the cross section of the windings is a square whose one surface diagonal runs at least substantially radially to the rotation axis.
14. Apparatus according to claim 11, wherein the exterior is provided with a profile in which projections and grooves alternate.
15. Apparatus according to claim 14, wherein the projections are sharp-edged at least in a circumferential direction of the winding axis.
16. Apparatus according to claim 14, wherein the projections are surrounded by the grooves.
17. Apparatus according to claim 14, wherein the grooves form two groups of which the grooves of the one group run substantially in the circumferential direction of the winding axis and the grooves of the other group at an angle thereto.
18. Apparatus according to claim 17, wherein the grooves of both groups cross one another at an angle between 30 and 60 degrees.
19. Apparatus according to claim 18, wherein the projections overlap one another in the circumferential direction of the winding axis such that drive jaws of a driving machine for the apparatus cannot drop into the grooves.
20. Apparatus according to claim 18, wherein the projections are of rhomboidal shape in plan.

REMARKS:

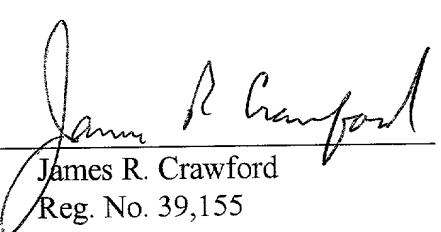
The purpose of this amendment is to conform the claims in accordance with U.S. practice.

If any fees are due to enter this amendment or to enter any other documents or to otherwise maintain pendency of this application, authorization is granted to charge such fees to Deposit Account No. 50-0624.

Respectfully submitted,

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